

statement that the organism would be freely available once a patent has issued. As noted in the Specification, at paragraph 0024, microorganisms within the scope of the present invention were deposited on March 13, 2002, with the American Type Culture Collection in accordance with the provisions of the Budapest Treaty on the International Recognition of the Deposit Microorganisms for the Purpose of Patent Procedure. The American Type Culture Collection is located at 10801 University Boulevard, Manassas, Virginia 20110-2209, USA. The deposited microorganisms have been assigned ATCC Designation Numbers PTA-4110, PTA-4111 and ATCC 66669. A copy of the receipt for this deposit is attached hereto, showing on its face the instruction that they release the culture without restriction after a relevant patent issues.

For the record, Applicants state that the cultures have been deposited with the American Type Culture Collection and that the culture is to be released without restriction after a relevant patent issues.

Further, the Examiner has requested further identification of the Burkholdria microorganism, since there is a vast array of patent and non-patent literature referring to Burkholderia and previously named Burkholderia microorganisms. Applicants assert, however, that the culture employed in the present claims and deposited with the ATCC was previously identified as a novel in testing by the Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH. A copy of their analysis and report,

comprising a complete description of the microorganism, is also enclosed for the Examiner's use.

WHEREFORE, in consideration of the above comments and the documents appended hereto, reexamination and allowance are respectfully requested.

February 19, 2004
Date

Respectfully,



Robert Charles Beam, Esq.
Reg. No. 28,182
Attorney for Applicant
(973) 724-3411

Mailing Address:
U.S. Army ARDEC
Attn: AMSRD-AAR-GC
R. Beam / Building 3
Picatinny Arsenal
New Jersey 07806-5000

ATCC

10301 University Blvd • Manassas, VA 20110-2209 • Telephone: 703-365-2700 • FAX: 703-2743

The American Type Culture Collection (ATCC) has received your deposit of a culture in connection with the filing of an application for patent. The following information is provided to fulfill requirements.

Name and Address of Depositor:

Geo-Centers, Inc.
Attn: Sheng-Yih Lee
Building 472, Picatinny Arsenal
New Jersey 07806

Deposited on Behalf of:

US Army

Date of Receipt of Culture by the ATCC: February 28, 2002

Scientific Description

Rhizobium rhizogenes BL
Burkholderia sp. BL

Depositor's Reference

A166
C81

Patent Deposit Designation

PTA-4110
PTA-4111

The ATCC understands that:

1. The deposit of this culture does not grant ATCC a license, either express or implied, to infringe the patent, and our release of this deposit to others does not grant them a license, either express or implied, to infringe the patent.
2. If this deposit should die or be destroyed during the effective term of the patent, it shall be your responsibility to replace it with viable material. It is also your responsibility to supply a sufficient quantity for distribution for the deposit term (30 years or 5 years following the most recent request for the deposit).

Prior to the issuance of a U.S. Patent, the ATCC agrees in consideration for a one-time service charge, not to distribute the culture or any information relating thereto or to its deposit except as instructed by the depositor or relevant patent office. After a relevant patent issues, and we are instructed to release the culture, the deposit will be made available for distribution to the public without any restrictions. The ATCC agrees to maintain the deposit for a period of thirty (30) years from deposit date, or at least five (5) years after the most recent request for a sample, whichever is longer.

We will inform you of requests for the culture.

The deposit was tested on March 11, 2002 and found to be viable.

American Type Culture Collection

By

Mario Harris
Mario Harris

ATCC Patent Depository

Date: March 13, 2002

cc: Mr. Robert Heam

(Ref: Docket or Case No.: 2001-012)

DSMZDeutsche Sammlung von
Mikroorganismen und
Zellkulturen GmbH

DSMZ - Musterkulturen für die Identifizierung

Gen-Centers
New Jersey Operations
Attn: Sherryin Lee
Building 9028
Picatinny Arsenal NJ 07806
USA

In Charge / In Charge

In Charge / In Charge

Tel.
0531 73516

Date / Date

210 01

251

22nd June 2001

DSMZ IDENTIFICATION SERVICE

Dear Sirs,

we have now completed the studies for the identification of your strains

1 - ID 01-405, 2 - ID 01-406 and 3 - ID 01-407

For the results please see the report attached.

According to the present taxonomy the above mentioned strains can be affiliated to the
genus and species mentioned in the protocol.

Pathogenicity was not tested.

Yours sincerely,

DSMZ Deutsche Sammlung von Mikro-
organismen und Zellkulturen GmbH*Susanne Verban*
Dr. Susanne Verban

Encl: identification reports and invoice no. 2103607

DSMZ-Service
Postfach 101553
53115 Bonn, Germany
Tel.: +49 228 294-2400
Fax: +49 228 294-2401
E-Mail: dszmz@dszmz.deDSMZ-Service
Postfach 101553
53115 Bonn, Germany
Tel.: +49 228 294-2400
Fax: +49 228 294-2401
E-Mail: dszmz@dszmz.deDSMZ-Service
Postfach 101553
53115 Bonn, Germany
Tel.: +49 228 294-2400
Fax: +49 228 294-2401
E-Mail: dszmz@dszmz.deDSMZ-Service
Postfach 101553
53115 Bonn, Germany
Tel.: +49 228 294-2400
Fax: +49 228 294-2401
E-Mail: dszmz@dszmz.de

DSMZDeutsche Sammlung von
Mikroorganismen und
Zellkulturen GmbH

20.06.2001

Identification of strain 1*, Dr. S.-Y. Lee, Geo-Centers Inc.
(DSM ID 01-405)most probably: *Rhizobium rhizogenes* (*Agrobacterium rhizogenes*)

Properties of the strain

Shape of cells	rods	Reaction on litmus milk	-
width μm	0.6-0.8	Acid from Ethanol	-
length μm	1.5-2.5	M-Erthritol	+
Gram reaction	-	Growth with 2% NaCl	w+
Lysis by 3% KOH	+	Citrate (Simmons)	+
Aminopeptidase (Cerny)	+	H ₂ S	+
Oxidase	+	Result: strain 1	
Catalase	+	= most probably: <i>Rhizobium rhizogenes</i>	
Flagella	+	(<i>Agrobacterium rhizogenes</i>)	
Growth at 35°C	-	The fatty acid profile of this strain is typical for	
41°C	-	the α -proteobacteria. Identification is not	
β -galactosidase	+	possible with this analysis.	
ADH	-	The partial sequence of the 16S rDNA shows a	
Urease (24 h)	-	similarity of 99.8% to <i>Rhizobium rhizogenes</i>	
Hydrolysis of:		(<i>Agrobacterium rhizogenes</i>). We also found a	
gelatine	-	100% similarity to a not described strain	
esculin	+	called 'R. tropici 2A'.	
DNA	+	Physiological tests point to <i>Rhizobium</i>	
starch	+	<i>rhizogenes</i> (<i>Agrobacterium rhizogenes</i>) (e.g.	
Reduction of nitrate	-	no growth at 35°C) but cannot identify the	
Malonate utilization:	+	species reliable.	
Alcaline reaction:	-	Since we are not able to perform	
Utilization of:		phytopathogenic tests which differentiate	
glucose	+	between highly related species in this area,	
arabinose	+	identification is based on physiology and 16S	
mannose	+	rDNA sequence only.	
mannitol	+	Magnification 2875x	
N-acetyl glucosamine	+		
malicose	+		
caprate	-		
gluconate	-		
adipate	+		
citrate	+		
phenylacetate	+		
malate	+		

01-405,2700x

Sherlock Version: 3.10

DATA: D019183114

18-MAY-03 12:28:12

RT	Area	Ar/Ht	Response	ECI	Name	Ref	Comment 1	Comment 2
1.765	308913856	0.037		0.999	SOLVENT PEAK		min rt	
2.063	1110	0.035		0.999			min rt	
10.063	4643	0.047	0.960	15.443	Sum In Feature 2	4.39	ECI deviation 0.003	14:0 30R/16:1 IS0 I
10.621	690	0.049	0.990	15.824	Sum In Feature 2	0.65	ECI deviation 0.002	16:1 w7c/15 Iso 20R
10.943	1908	0.047	0.938	16.000	16:0	5.63	ECI deviation 0.002	Reference -0.004
11.190	2747	0.048	0.997	16.172	16:0 IS0 30R	7.38	ECI deviation 0.003	
13.594	3248	0.049	0.943	17.318	18:0 30R	4.87	ECI deviation 0.003	
14.133	67611	0.047	0.943	17.824	18:1 w7c	62.54	ECI deviation 0.001	
14.443	3117	0.031	0.943	17.997	18:0	2.88	ECI deviation -0.003	Reference -0.004
16.033	11637	0.049	0.936	18.900	19:0 CYCLO w6	10.69	ECI deviation -0.003	Reference -0.003
16.363	2858	0.031	0.935	19.098	18:1 20R	2.07	ECI deviation -0.001	
17.139	2623	0.031	0.935	19.846	18:0 30R	2.40	ECI deviation -0.004	
17.320	1414	0.030	0.932	19.638	20:0 IS0	1.29	ECI deviation 0.003	Reference 0.004
17.606	3814	0.107		19.618			max ar/ht	
18.252	1244	0.023		20.174			max rt	
18.581	600	0.049		20.343			max rt	
18.830	606	0.050		20.506			max rh	
19.132	165	0.027		20.684			max rh	
4643					SUMMED FEATURE 2	4.39	12:0 ALDE 7	unknown 10.928
690					SUMMED FEATURE 3	0.65	16:1 IS0 I/14:0 30R	14:0 30R/16:1 IS0 I
							16:1 w7c/15 Iso 20R	15:0 IS0 20R/16:1 w7c
Solvent Ar	Total Area	Named Area	% Named	Total Area	Mr Ref	ECI Deviation	Ref ECI Shift	
308913856	113791	107977	94.89	101920	4	0.003	0.005	

THERA40 (Rev 4.10) Phyllobacterium

P. myriodactylum

P. rubiacarum

0.405

0.409

0.393

 α -proteobacterium

Table 1: Fatty Acid Profile for Strain 1

DSMZDeutsche Sammlung von
Mikroorganismen und
Zellkulturen GmbH

20.06.2001

Identification of strain 2, Dr. S.-Y. Lee, Geo-Centers Inc.
(DSM ID 01-406).*Burkholderia* sp.

Properties of the strain

Shape of cells
width μm
length μm rods
0.7-0.9
1.5-3.5Utilization of
butylamin
L-arabitol
rhamnose
L-alanin
melibiose-
-
+
+
-Pigments
Flagella-
+Gram reaction
Lysis by 3% KOH
Aminopeptidase (Cerny)-
+
+Result: strain 2
= *Burkholderia* sp.Catalase activity
Oxidase activity+
+The partial sequencing of the 16S rDNA
shows a similarity of around 97% to several
species of the genus *Burkholderia*.

ADH

-

The profile of the cellular fatty acids is typical
for the *Burkholderia*-group.Hydrolysis of gelatin
esculin
casein
starch
DNA-
-
-
+
+The results of the physiological tests do not
allow a concrete identification of this strain.
They point to *B. cepacia*.NO₂ from NO₃ (24h)
Denitrification-
-Considering all these results, especially the
result of the partial sequencing, this strain
may be a member of a new species within
this genus.Utilization of
m-hydroxy-benzoat
 α -amylamin
glucose
citrat
malat
arabinose
mannose
mannit
adipat
caprat
gluconat
malose
citrateconat
itaconat
inositol
mesaconat
butandiol
tryptamin+
+
+
+
+
+
+
+
+
+
+
+
+
+
+
+
+
+

Magnification ~2700 x:



01-406, 2700x

Sherlock Version: 3.10

DATA: E01518321A

18-MAY-01 13:54:17

ID: 1430
Bottle: 18UN-V-01-406-2 GSO CENTERS
SAMPLE [TSBA40]

Date of run: 18-MAY-01 13:28:12

RT	Area	Ar/Ht	Response	ECL	Name	%	Comment 1	Comment 2
1.740	308111640	0.037		7.000	SOLVENT PEAK		min rt	
2.060	753	0.038		7.531			min rt	
4.046	600	0.036	1.077	10.925	Sum In Feature 2	0.17	ECL deviates -0.003	unknown 10.928
6.183	1486	0.043	1.012	12.937	13:1 AT 12-13	0.40	ECL deviates 0.001	
7.663	13906	0.040	0.989	14.001	14:0	3.65	ECL deviates 0.001	Reference -0.004
9.015	1607	0.067	0.973	14.861	15:1 w/c	0.42	ECL deviates 0.005	
9.231	1415	0.067	0.971	14.998	15:0	0.37	ECL deviates -0.002	Reference -0.007
10.061	18511	0.043	0.963	15.490	Sum In Feature 2	4.75	ECL deviates 0.002	14:0 30H/16:1 ISO I
10.620	80640	0.045	0.960	15.821	Sum In Feature 3	20.60	ECL deviates -0.001	16:1 w/c/15 iso 20H
10.924	77418	0.046	0.958	16.001	16:0	19.73	ECL deviates 0.001	Reference -0.005
12.479	6477	0.051	0.950	16.889	17:0 CYCLO	1.64	ECL deviates 0.001	Reference -0.004
12.672	932	0.047	0.949	17.000	17:0	0.24	ECL deviates -0.000	Reference -0.006
12.762	3488	0.051	0.949	17.051	16:1 20H	0.88	ECL deviates 0.003	
13.089	4209	0.050	0.947	17.239	16:0 20H	1.06	ECL deviates 0.002	
13.592	14423	0.049	0.945	17.520	16:0 30H	3.62	ECL deviates 0.001	
14.136	154907	0.048	0.943	17.827	18:1 w/c	38.84	ECL deviates 0.004	
14.440	3834	0.047	0.942	17.998	18:0	0.96	ECL deviates -0.002	Reference -0.006
14.586	833	0.052	0.941	18.081	11-methyl 18:1 w/c	0.21	ECL deviates -0.000	
16.033	6740	0.051	0.936	18.963	19:0 CYCLO w/c	1.68	ECL deviates 0.001	Reference -0.003
16.362	2275	0.060	0.935	19.090	18:1 20H	0.57	ECL deviates 0.001	
17.655	948	0.086	0.931	19.834	20:1 w/c	0.23	ECL deviates 0.003	
*****	19111				SUMMED FEATURE 2	4.92	12:0 ALDE ?	unknown 10.928
*****							16:1 ISO I/14:0 30H	14:0 30H/16:1 ISO I
*****	80640				SUMMED FEATURE 3	20.60	16:1 w/c/15 iso 20H	15:0 ISO 20H/16:1 w/c

Solvent Ar	Total Area	Named Area	% Named	Total Amt	Nbr Ref	ECL Deviation	Ref ECL Shift
308111640	394649	394649	100.00	376057	7	0.002	0.005

TSBA40 [Rev 4.10]	Burkholderia	0.869	(Pseudomonas cepacia)
	B. cepacia	0.869	(Pseudomonas cepacia)
	B. c. GC subgroup B*	0.869	(Pseudomonas cepacia)
	B. c. GC subgroup A*	0.514	(Pseudomonas cepacia)
	B. pyrrocinia**	0.639	(Pseudomonas pyrrocinia)
	B. glathei**	0.624	(Pseudomonas glathei)

Table 2 : Fatty Acid Profile for Strain 2

DSMZDeutsche Sammlung von
Mikroorganismen und
Zellkulturen GmbH**Identification of Fungus cultures****Sent by:** Geo-Centers, Inc., Dr. G.-Y. Lee**Strain designation:** 3**Substrate:** soil**Colony habit:**

Colony on malt extract agar growing about 1 mm per day at 25°C; mycelium velvety, olive-green. Colony reverse greenish-black. No growth at 37°C.

Morphology:



Conidiophores rarely branched, with apical branching, easily disintegrating leaving prominent scars. Terminal conidia ovoid, 3-7 x 3 µm, smooth-walled.

Identity: *Cladosporium cladosporioides* (Pres.) de VriesDSMZ Deutsche Sammlung von Mikro-
organismen und Zellkulturen GmbH

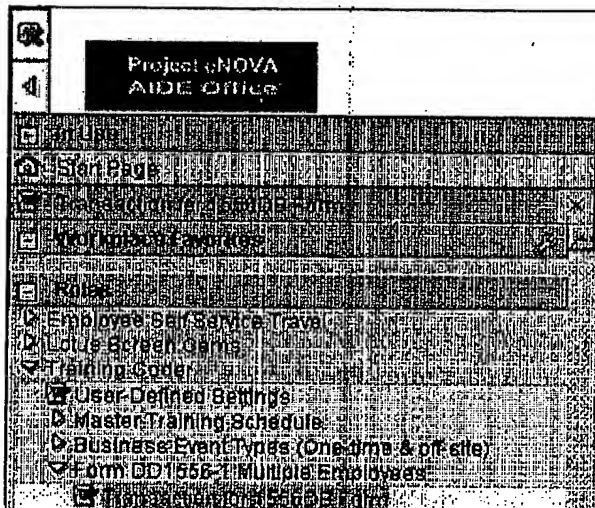
Braunschweig, June 19, 2001

N.B. Unknown to DSMZ the substrate was RDX.

PROJECT c-NOVA**How Do I Complete Form DD1556-1 (Multiple Trainees/Applicants w/Course Known?)**

 Trigger	Perform this transaction when completing a DD1556-1 Training Form for Multiple individuals
Drill-down Path	Web Portal > SAP Launch-Pad > Role > Form DD1556-1 Multiple Employees > Transaction for 1556DB Form
 Tips & Tricks	Menu Path may change per role

1. Start the Create Form DD1556-1 Multiple Employees transaction by clicking on the Transaction for DD1556DB hyperlink.



PROJECT e-NOVA

2. The DD1556-1 Request, Authorization, Agreement, Cert of Training screen will appear.

3. As required, complete the following fields:

Note: If you do not have authorization to enter Training Requests for Multiple Employees you will not get this screen, it will automatically take you straight to the Overview DD1556-1 Training Request Screen.

Field Name	Required/Optional	Description
Personnel No.	Required	Requestor's employee number

If employee number is unknown, [Click] the Search button to the 'right' of Personnel No. to perform a search for correct employee by either Last or First Name. Select the employee from list.

4. [Click] the Enter icon. The Overview DD1556-1 Training Request screen will appear.

Note: Note that all training records are displayed with current status grouping and processing status. of Training Requests.

Field Name	Description
Status grouping	10 = In Process 20 = Released for Approval 30 = Approved 40 = Rejected 50 = Evaluation Completed 60 = Evaluation Submitted 70 = Request Complete 80 = Cancelled

PROJECT 8-NOVA

 Approval Data automatically populates as approvals take place.

33. [Click] the  **Back** icon. The **Overview DD1556-1 Training Request** screen will appear.

[illegible]**Trainee/ Applicant**

Completing the Course Evaluation

34. Upon return from attending the course, The Trainee/Applicant must evaluate the course. Access the **Overview DD1556-1 Training Request** screen (**Steps 1-4**).

Overview DD1558-1 Training Request										
<input type="radio"/> Overview <input type="radio"/> Details <input type="radio"/> Change Log <input type="radio"/> History <input type="radio"/> Submit <input type="radio"/> Print <input type="radio"/> Cancel										
Request Number		DD001		Request Name		HOBNEARX		Request Status		Open
Request Type		HOBNEARX		Request Description		HOBNEARX		Request Date		05/12/2003
Request Category		HOBNEARX		Request Subcategory		HOBNEARX		Request Date		05/12/2003
Request Priority		HOBNEARX		Request Subpriority		HOBNEARX		Request Date		05/12/2003
Request Owner		HOBNEARX		Request Subowner		HOBNEARX		Request Date		05/12/2003
Request Manager		HOBNEARX		Request Submanager		HOBNEARX		Request Date		05/12/2003
Request Status		HOBNEARX		Request Substatus		HOBNEARX		Request Date		05/12/2003
Request Action		HOBNEARX		Request Subaction		HOBNEARX		Request Date		05/12/2003
Request Comment		HOBNEARX		Request Subcomment		HOBNEARX		Request Date		05/12/2003
Request History		HOBNEARX		Request Subhistory		HOBNEARX		Request Date		05/12/2003
Request Log		HOBNEARX		Request Sublog		HOBNEARX		Request Date		05/12/2003
Request Detail		HOBNEARX		Request Subdetail		HOBNEARX		Request Date		05/12/2003
Request Summary		HOBNEARX		Request Subsummary		HOBNEARX		Request Date		05/12/2003
Request Footer		HOBNEARX		Request Subfooter		HOBNEARX		Request Date		05/12/2003

PROJECT 6-NOVA

35. Select the Request for which you are completing an evaluation by [Clicking] the ☒ Record Box to the 'left' of that line. The Training Request line will become activated.

Overview DD1556-1 Training Request

Request No.		1000	
Last Name		HOSNEARA	
First Name		RITA	
Request Date		05/15/2003	
Request Status		Active	
Request Type		Training	
Request Category		General	
Request Subcategory		General	
Request Description		General	
Request Comments		General	

36. [Click] the ☒ Change Change button. The **Change DD1556-1 Training Request** screen will appear with **Course Eval** tab automatically displayed.

Change DD1556-1 Training Request

Request No.		1000	
Last Name		HOSNEARA	
First Name		RITA	
Request Date		05/15/2003	
Request Status		Active	
Request Type		Training	
Request Category		General	
Request Subcategory		General	
Request Description		General	
Request Comments		General	
Request Evaluation		10.0	
Request Evaluation Date		05/16/2003	
Request Evaluation User		RITA	
Request Evaluation Comments		General	